

HEDUS 002

## REMARKS/ARGUMENTS

### I. Introduction

Claims 1-20 were rejected in the Office Action. The specification was objected due to an informality on page 3, line 13. The specification has been corrected in this Response. No new matter has been added. Claims 7 and 17 were objected to for informalities and they have been corrected in this Response.

Applicant's representative thanks the Examiner for the opportunity to discuss this application during the August 16, 2005 interview summarized below.

In view of the arguments made during the telephone interview and amendments made to the independent claims, it is respectfully submitted that the rejected claims are patentable over the applied references. Since the reasons the claims are allowable over the prior art were discussed during the interview, Applicant will rely on the summary of Applicant's arguments to restate for the record, in response to the office action, the reasons claims 1-20 are patentable.

HEDUS 002

## II. Interview Summary

This interview summary is presented in the format suggested by the Patent Office.

1. **Application Number:** 10/656,387
2. **Name of Applicants:** Scott Baker
3. **Name of Examiner:** Sikha Roy
4. **Date of Interview:** August 16, 2005
5. **Type of Interview:** Telephonic
6. **Name of Participants:**  
**Examiner:** Sikha Roy;  
**Applicant's Rep:** David Cunningham  
**Inventor:** Scott Baker
7. **Exhibit(s) Shown:** None
8. **Claims discussed:** Rejected claims 1-20
9. **Prior Art Discussed:** The prior art applied in the Office Action was discussed.
10. **Proposed Amendments discussed:** Amendment to claim 1 as indicated below.

## 11. Discussion of General Thrust of the Principal Arguments

The Examiner rejected claims 1-3, 5-8, 10-14, 16, 17 and 18 under 35 USC 102(b) as being anticipated by Numata (USPN 5,250,968). Claim 4 was rejected under 35 USC 103 as being obvious over Numata. Claims 9 and 15 were rejected under 35 U.S.C. 103(a) as being obvious over Numata in further view of Florek (6,696,776). Claims 9 and 15 were rejected under 35 U.S.C. 103(a) as being obvious over Numata in further view of Takezawa (6,130,497).

HEDUS 002

As discussed during the telephone interview, the present invention is directed to an improved apparatus for coupling a projection lens to a projection optical signal generating device (such as a CRT for example). The apparatus includes a frame portion that defines a cooling chamber between the projection lens and CRT. The cooling chamber preferably contains a liquid that disperses heat generated from the CRT. The present invention also contains contrast ribs extending in a substantially parallel plane to the openings of the frame (See Fig. 3 for example). The ribs extend from the frame's inner wall and reduce skew rays emitted from the CRT which improves contrast of the overall optical signal.

Claim 1 has been amended in this Response as follows to clarify the invention:

Claim1 (currently amended). An apparatus for coupling a projection lens to a projection optical signal generating device, said apparatus comprising:

An integral frame portion for supporting said projection lens in alignment with said projection optical signal generation device; said frame portion forming a first and second opening at opposite ends and defining a cooling chamber between said projection lens and said projection optical signal generating device, wherein said cooling chamber is for containing a liquid; and

a plurality of rigid contrast ribs extending from said frame's inner wall in said cooling chamber, wherein said plurality of contrast ribs extend into a substantially parallel plane to said frame's formed first and second openings.

The amendment clarifies that the frame portion of the apparatus is an integral piece. The frame portion itself defines the cooling chamber between the projection lens and said projection optical signal generating device. In addition, the amendment clarifies that contrast ribs are rigid and are not

HEDUS 002

flexible. The contrast ribs are created, for example, by creating grooves in the inner wall of the frame (dependent claim 5 specifies that the contrast ribs are integrally formed in the inner wall of the frame by creating grooves). Corresponding amendments were also made to the other independent claims 13 and 19.

The cited Numata reference is quite different from the present invention. Numata discloses an image projecting unit that contains a bellows disposed between the display surface and the rear most lens to define a sealed space which will contain a liquid. (see Col. 2, lines 14-25). The bellows allows the position of the components of the image projecting unit (lens and display surface) to be moved by adjusting bolts in the apparatus. In the background of the Numata patent, the patentee states that in prior art image projecting units, if an adjusting bolt is turned, the rubber tube (which defines the sealed space) needs to be deformed or compressed. (See Col. 1, line 65 – Col. 2, line 9). Numata therefore use a bellows to allow for such compression without harming the unit because the bellows is deformable.

The present invention does not have a bellows which allows adjustment of the relative position of the CRT to the lens by deforming the bellows. Instead, the present invention has an integral frame for aligning the CRT to the lens and includes contrast ribs in the inner wall of the frame to help the resultant contrast of the optical signal traveling through the integral frame. The Numata reference does not disclose or suggest an integral frame portion which defines a cooling chamber as explained below. In addition, Numata does not disclose or suggest rigid contrast ribs that extend from the inner wall of the frame portion. In fact Numata requires a flexible bellows to achieve its stated purpose in that patent.

In the Office Action, the Examiner points to a frame portion 23, 25 in the Numata reference regarding the frame portion element in claim 1 of the

HEDUS 002

present invention. Claim 1 of the present invention requires the frame portion *defining a cooling chamber*. In the Numata reference, the area defined by parts 23, 25 do not define a cooling chamber. Instead the bellows is required to be attached to two structural components 23, 25 in order to define the cooling chamber which will hold the liquid. Parts 23, 25 are necessary to support the adjusting bolts that are required by the Numata reference.

In addition, in Numata the bellows is a separate component in the image projection unit. The Numata specification states a flange is created at the ends of the bellows and the flanges are secured to parts 23, 25 by screws (See Col. 5, lines 8-19). By contrast, the present invention is a one piece integral coupler apparatus. Moreover, in claim 1 of the present invention, the following element is required: "A plurality of contrast ribs extending from said frame's inner wall *in said cooling chamber*". The bellows in Numata do not extend from the frame in the cooling chamber, rather the bellow itself defines part of the cooling chamber.

Dependent claim 5 of the present invention has the following limitation: "Wherein said contrast ribs are integrally formed by creating grooves *in said inner wall of said frame*." In Numata, the bellows are not formed in parts 23 and 25. They are attached by screws.

**12. Other Pertinent Matters Discussed: None**

**13. General Results/Outcome of Interview**

The Examiner agreed that Applicants' proposed amendment to claim 1 and arguments regarding the applied references overcame the rejection. Applicant agreed to make corresponding amendments to the other independent claims. The Examiner stated she would perform a supplemental search and if no new prior art was found, the amended claims would be allowed.

HEDUS 002

**III. Claims 1-20 Are Patentable**

Claims 1-20 are patentable for the reasons discussed in detail in the interview summary set forth above. The Independent claims have been amended as discussed during the telephone Interview. The dependent claims are patentable for the same reasons as the independent claims from which they depend.

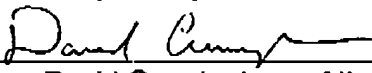
**IV. Conclusion**

In view of the foregoing amendments and remarks, the Applicants respectfully submit that the pending claims 1-20 are in condition for allowance. Accordingly, the Applicants request that the Examiner pass this application to issue.

**Applicants request that the Examiner contact Applicants' undersigned representative by phone if any outstanding issues remain to be resolved to place the application in condition for allowance.**

Respectfully submitted,

August 18, 2005

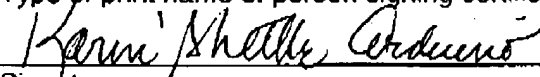
  
David Cunningham, Attorney  
Reg. No. 38,418  
Tel.: (914) 333-2949

**CERTIFICATE OF FACSIMILE TRANSMISSION**

I hereby certify that this paper (and any accompanying paper(s)) is being facsimile transmitted to the United States Patents and Trademark Office on the date shown below.

Karin Shettle Arduino

Type or print name of person signing certification

  
Signature

August 18, 2005

Date

**HITACHI**

*Docket No. HEDUS 002*

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Honorable Commissioner of Patents and Trademarks  
Certification Branch  
Washington, D.C. 20231

**RECEIVED  
CENTRAL FAX CENTER**

**AUG 18 2005**

Sir:

We do not believe that there is any charge for the filing of this Amendment. The Commissioner is hereby authorized to charge any fees which may be required for processing and filing the Amendment to Deposit Account No. 08-2393. **A duplicate copy of this sheet is attached.**

Respectfully submitted,



David T. Cunningham, Attorney  
Reg. No. 38,418  
(914) 333-2949

Hitachi America, Ltd.  
50 Prospect Avenue  
Tarrytown, New York 10591

DTC/klisa

g:\HEDUS\VP\ChrgoAuth